

REMARKS/ARGUMENTS

The undersigned attorney would like to thank the Examiner and her Supervisor for the telephone interview conducted on June 29, 2009. Prior to the interview, proposed amendments to the independent claims, which are the same as put forth above, had been faxed to the Examiner for review. During the interview, the discussion focused on arguments for withdrawing the obviousness rejection put forth in outstanding Office Action in light of the proposed amendments to the claims. At the conclusion of the interview, the Examiner asked the undersigned to submit the arguments made during the interview in writing for further consideration by the Examiner. The arguments are put forth below.

Application claims 1, 2, 4-12 and 14-21 are pending and stand rejected under the outstanding Office Action. Applicant has amended the independent claims, namely, independent claims 1, 12 and 14 in order to distinguish the claimed invention over the prior art of record and overcome the outstanding rejection under 35 U.S.C. §103.

During the telephone interview, the undersigned emphasized the differences between the present invention and the disclosure in the Marsh reference (US 3,629,999). A main point of distinction between the sterile air trolley of the present invention and that of Marsh (US 3,629,999) is that in the present invention the air outlets are arranged inwardly of opposing straight, parallel walls, giving rise to *a laminar* flow of air upwards from the work surface (in other words, a flow of air with no disruption or turbulence between the layers of air). In contrast, in the apparatus of Marsh, the boundary wall is circular, such that filtered air is directed upwards in a rising vortex (i.e. turbulent flow).

The other reference applied in the outstanding Office Action, the Howorth reference (US 4,531,956), was not discussed during the telephone interview, but is discussed herein for completeness. The main point of distinction between the present invention and the apparatus of Howorth (US 4,531,956) is that the trolley of the invention has air outlets that direct air only substantially inwardly of the boundary wall, not vertically from the work

surface as disclosed in Howorth. Howorth does not have air outlets in the boundary wall consisting essentially of air outlets facing inwardly of the boundary wall. Drawbacks of the Howorth device are discussed in the present application, page 2, lines 1-14.

With these distinctions over the prior art in mind, the independent claims 1, 12 and 14 have been amended to specifically recite: "the boundary wall comprising first and second pairs of opposing, straight, parallel side walls, such that filtered air is emitted inwardly over the work surface from opposing, straight, parallel side walls in use."

The invention described by the independent claims as amended is not obvious in light of Howorth and Marsh. Neither Howorth nor Marsh disclose apparatus having a boundary wall having air outlets that direct air only substantially inwardly of the boundary wall and wherein the boundary wall comprises first and second pairs of opposing, straight, parallel walls, such that filtered air is emitted inwardly over the work surface from opposing parallel straight side walls in use.

The Applicant has found that by providing boundary walls having opposing straight, parallel sides, with air outlets only directed inwardly as recited in the amended independent claims, a continuously replenished rising layer of filtered air is directed over the work surface (in other words, a blanket of air with no disruption or turbulence between the layers of air). (see, e.g., page 3, lines 9-22, page 4, lines 18-22). In contrast, in Marsh the boundary wall is circular such that filtered air is directed upwards in a rising vortex (i.e. turbulent flow). In fact, Marsh specifically teaches away from use of laminar flow systems (see, Marsh, column 1, lines 19 to 23).

In Marsh, air is directed in a 360° arc inwardly from the inner periphery of annular diffuser 54 (see, Marsh, column 3, lines 24 to 30). Lip 60 on the top of the housing chamber gives the proper direction to outpouring air and prevents immediate expansion of the air from the diffuser (see, Marsh, column 3, lines 26 to 30). It is disclosed in Marsh at column 2, lines 65 to 69 that "as the rushing masses of air collide, they form a vertically rising vortex which provides an air barrier against external contamination and also sweeps locally generated

contaminants from any object placed in the well". The provision of the circular annular diffuser 54 and the lip 60 on the top of the chamber housing creates a rising vortex of air (i.e. a spiraling column of air) as opposed to the laminar rising flow of air arising from the arrangement of the opposing straight parallel boundary walls with inward facing outlets as recited in the independent claims.

Paragraph 11 of the outstanding Office Action states that it would have been obvious to have made the boundary wall of Marsh in the shape of a rectangle. However, Applicants submit it would not have been obvious, as making the boundary wall of Marsh rectangular would not discharge the air *"in a 360° arc towards the center of the diffuser well"* such that as the *"rushing masses of air collide, they form a vertically rising vortex which provides an air barrier external contamination"* (see, Marsh, column 2, lines 63 to 69). Marsh teaches away from using a non-circular boundary wall, therefore it would not have been obvious to provide a boundary wall having first and second pairs of opposing, straight, parallel walls.

A problem with the devices of Marsh and Howorth is that the devices entrain contaminants from the objects placed in the sterile work surface area and blow the entrained contaminants into the wider area above the work surface. For example, see Marsh column 1, lines 46 to 49 and column 2, lines 65 to 69 of Marsh wherein it is stated that the rising vortex sweeps away local contaminants from any objects placed in the well. Also, it is plainly clear that the Howorth device, having airflow upwardly through outlets in the work surface would also entrain contaminants from instruments replaced on the work surface in the airflow.

One objective of the present invention is to prevent entrainment of blood from surgical instruments on the work surface in the airflow as an aerosol (see page 2, lines 11 to 13 of the present description). This is achieved in the present invention, wherein the boundary walls comprise pairs of opposing straight, parallel walls with air outlets facing inwardly only, because the configuration gives rise to a continuously replenished rising laminar flow of air over the work surface (see, e.g., page 3, lines 9-22; page 4, lines 22). The claimed invention is not taught or suggested in any of the prior art.

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Amendment dated July 1, 2009
Reply to Office Action of March 3, 2009

If a person of ordinary skill in the art were motivated to modify the apparatus of Howorth in light of Marsh in order to provide the apparatus of Howorth with an upstanding boundary wall, following the teaching of Marsh the person would likely provide the Howorth apparatus with a circular boundary wall with an inward facing diffuser (since the teaching of Marsh is that a circular boundary wall is required to provide the discharge of air in a 360° arc to form a vertically rising vortex (see, Marsh, column 2, lines 63 to 69)). However, since Marsh teaches away from use of laminar flow workbenches and the use of non-circular boundary walls, it would not have been obvious to provide the Howorth apparatus with a non-circular boundary wall, having opposing, parallel, straight sides as described by the amended independent claims.

For at least these reasons, Applicants submit that the invention as now claimed is clearly inventive in light of Marsh and Howorth.

Applicants therefore respectfully and earnestly request withdrawal of the outstanding rejection, and request allowance of the case as amended.

Respectfully submitted,

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